



DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2019–0059; FF09E21000 FXES11110900000 212]

RIN 1018–BD09

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Suwannee Moccasinshell

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for the Suwannee moccasinshell (*Medionidus walkeri*) under the Endangered Species Act of 1973 (Act), as amended. In total, approximately 190 miles (306 kilometers) of stream channels in Alachua, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Madison, Suwannee, and Union Counties, Florida, and Brooks and Lowndes Counties, Georgia, fall within the boundaries of the critical habitat designation. The effect of this regulation is to designate critical habitat for the Suwannee moccasinshell under the Act.

DATES: This rule is effective [INSERT DATE 30 DAYS AFTER DATE OF FEDERAL REGISTER PUBLICATION].

ADDRESSES: This final rule is available on the Internet at <http://www.regulations.gov> under Docket No. FWS–R4–ES–2019–0059 and at <https://www.fws.gov/panamacity/>.

Comments and materials we received, as well as some supporting documentation we used in preparing this rule, are available for public inspection at <http://www.regulations.gov>.

All of the comments, materials, and documentation that we considered in this rulemaking are available upon mailed request from U.S. Fish and Wildlife Service, Panama City Ecological Services Field Office, 1601 Balboa Avenue, Panama City, FL 32405; or by

telephone 850–769–0552.

The coordinates or plot points or both from which the maps are generated are included in the administrative record for this critical habitat designation and are available at <http://www.regulations.gov> at Docket No. FWS–R4–ES–2019–0059, and at the Panama City Ecological Services Field Office at <https://www.fws.gov/panamacity/> (see **FOR FURTHER INFORMATION CONTACT**). Any additional tools or supporting information that we developed for this critical habitat designation will also be available at the U.S. Fish and Wildlife Service website and upon mailed request to the Field Office set out above, and may also be included in the preamble and at <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Jay B. Herrington, Field Supervisor, U.S. Fish and Wildlife Service, Panama City Ecological Services Field Office, 1601 Balboa Avenue, Panama City, FL 32405; telephone 850–769–0552. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under Section 4(a)(3) of the Act, if we determine that a species is endangered or threatened, we must designate critical habitat to the maximum extent prudent and determinable. Designations and revisions of critical habitat can only be completed by issuing a rule. We listed the Suwannee moccasinshell as a threatened species on November 7, 2016 (81 FR 69417). We are designating a total of approximately 190 mi (306 km) of stream channel in three units as critical habitat for the Suwannee moccasinshell.

Basis for this rule. Section 3(5)(A) of the Act defines critical habitat as (i) the specific areas within the geographical area occupied by the species, at the time it is listed,

on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protections; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. Section 4(b)(2) of the Act states that the Secretary must make the designation on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impacts of specifying any particular area as critical habitat.

Economic analysis. In accordance with section 4(b)(2) of the Act, we prepared an economic analysis of the impacts of designating critical habitat for the Suwannee moccasinshell. We published the announcement of, and solicited public comments on, the draft economic analysis (DEA; 84 FR 65325, November 27, 2019). Because we received no comments on the DEA, we adopted the DEA as a final version.

Peer review and public comment. In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinion from three knowledgeable individuals with scientific expertise that included familiarity with the Suwannee moccasinshell and its habitat, biological needs, and threats. We received a response from one peer reviewer who agreed with the information in the proposed critical habitat rule. We also considered all comments and information received from the public during the comment period on the proposed designation.

Previous Federal Actions

On October 6, 2015 (80 FR 60335), we proposed to list the Suwannee moccasinshell as a threatened species. On October 6, 2016 (81 FR 69417), we published the final listing rule, which added the Suwannee moccasinshell to the List of Endangered and Threatened Wildlife in title 50 of the Code of Federal Regulations at 50 CFR 17.11(h). On November 27, 2019 (84 FR 65325), we proposed to designate critical

habitat for the Suwannee moccasinshell. All other previous Federal actions for the Suwannee moccasinshell are described in one or more of the documents discussed above.

Summary of Comments and Recommendations

In our November 27, 2019, proposed critical habitat rule, we requested written comments from the public on the proposed designation and the associated DEA by January 27, 2020. We also contacted appropriate Federal, State, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed critical habitat designation and DEA during the comment period. Notices of the availability of these documents for review and inviting public comment were published by the Tallahassee Democrat on December 4, 2019, Gainesville Sun and Gilchrist Journal on December 5, 2019, and Valdosta Daily Times and Suwannee Democrat on December 11, 2019. We received nine comments during the 60-day comment period. We did not receive any requests for a public hearing. All substantive information provided during the comment period has either been incorporated directly into this final determination or is addressed below.

Comments from States

Section 4(b)(5)(A)(ii) of the Act requires the Service to give actual notice of any designation of lands that are considered to be critical habitat to the appropriate agency of each State in which the species is believed to occur, and invite each such agency to comment on the proposed regulation. The Florida Fish and Wildlife Conservation Commission (FWC) provided comments in support of the designation of critical habitat, and provided additional information related to current and future threats. Specifically, the FWC provided a publication by Holcomb *et al.* (2018, entire) on the strong connection between spring discharge and species occupancy; information on a proposed surface mining operation along the New River; and a publication by Neupane *et al.* (2019, entire)

that assessed the hydrologic responses to projected climate change in the Suwannee River basin. We incorporated this new information into the final rule.

Public Comments

We received eight public comments on the proposed rule. Several commenters indicated support for the habitat protection of the Suwannee moccasinshell. None of the comments were substantive so as to require the Service's response.

Summary of Changes from the Proposed Rule

After consideration of the comments we received during the public comment period (refer to **Summary of Comments and Recommendations** above), and new information published or obtained since the proposed rule was published, we made changes to the final critical habitat rule. Many small, nonsubstantive changes and corrections, not affecting the determination (*e.g.*, updating the **Background** section in response to comments, minor clarifications), were made throughout the document. Below is a summary of changes made to the final rule.

(1) We incorporated information on the strong connection between spring discharge and species occupancy from Holcomb *et al.* (2018, entire) into the discussion of natural flow regimes in the *Habitats Protected From Disturbance* section under **Physical or Biological Features Essential to the Conservation of the Species.**

(2) We incorporated information from Neupane *et al.* (2018, entire), provided by FWC (see above), that assessed the hydrologic responses to projected climate change scenarios in the Suwannee River basin into the discussion of natural flow regimes in the *Habitats Protected From Disturbance* section under **Physical or Biological Features Essential to the Conservation of the Species.**

(3) We incorporated information received from FWC (see above) on a proposed surface mining operation in the upper Santa Fe River sub-basin into the discussion of physical or biological features that may require special management considerations or

protection within Unit 1 under **Final Critical Habitat Designation**.

Critical Habitat

Background

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features:

- (a) Essential to the conservation of the species, and
- (b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Our regulations at 50 CFR 424.02 define the geographical area occupied by the species as: An area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.*, range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (*e.g.*, migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the Federal agency would be required to consult with the Service under section 7(a)(2) of the Act. However, even if the Service were to conclude that the proposed activity would result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement “reasonable and prudent alternatives” to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act’s definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features that occur in specific occupied areas, we focus on the specific features that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, prey, vegetation, symbiotic

species, or other features. A feature may be a single habitat characteristic or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

Under the second prong of the Act's definition of critical habitat, we may designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. When designating critical habitat, the Secretary will first evaluate areas occupied by the species. The Secretary will only consider unoccupied areas to be essential where a critical habitat designation limited to geographical areas occupied by the species would be inadequate to ensure the conservation of the species. In addition, for an unoccupied area to be considered essential, the Secretary must determine that there is a reasonable certainty both that the area will contribute to the conservation of the species and that the area contains one or more of those physical or biological features essential to the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards under the Endangered Species Act (published in the *Federal Register* on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally from the information developed during the listing process for the species. Additional information sources may include any generalized conservation strategy, criteria, or outline that may have been developed for the species, the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, other unpublished materials, or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in section 9 of the Act. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Physical or Biological Features Essential to the Conservation of the Species

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas we will designate as critical habitat from within the geographical area occupied by the species at the time of listing, we consider the physical or biological features that are essential to the conservation of the species and that may require special management considerations or protection. The regulations at 50 CFR 424.02 define “physical or biological features essential to the conservation of the species” as the features that occur in specific areas and that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity. For example, physical features essential to the conservation of the species might include gravel of a particular size required for spawning, alkali soil for seed germination, protective cover for migration, or susceptibility to flooding or fire that maintains necessary early-successional habitat characteristics. Biological features might include prey species, forage grasses, specific kinds or ages of trees for roosting or nesting, symbiotic fungi, or a particular level of nonnative species consistent with conservation needs of the listed species. The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic essential to support the life history of the species.

In considering whether features are essential to the conservation of the species, we may consider an appropriate quality, quantity, and spatial and temporal arrangement of habitat characteristics in the context of the life-history needs, condition, and status of

the species. These characteristics include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; and habitats that are protected from disturbance.

Space for Individual and Population Growth and for Normal Behavior

Mussels generally live embedded in the bottom of stable streams and other bodies of water, in areas where flow velocities are sufficient to remove finer sediments and provide well-oxygenated waters. The Suwannee moccasinshell inhabits creeks and rivers where it is found in substrates of sand or a mixture of sand and gravel, and in areas with slow to moderate current (Williams 2015, p. 2). The species is often associated with large woody material embedded in the substrate, which may help stabilize substrates and act as a flow refuge. The Suwannee moccasinshell, similar to other freshwater mussels, is dependent on areas with flow refuges, where shear stress is relatively low and sediments remain stable during high flow events (Strayer 1999, pp. 468, 472; Hastie *et al.* 2001, pp. 111–114; Gangloff and Feminella 2007, p. 71). Substrates that remain stable in high flows conceivably allow these relatively sedentary animals to remain in the same general location throughout their entire lives. These habitat conditions not only provide space for Suwannee moccasinshell populations, but also provide cover and shelter and sites for breeding, reproduction, and growth of offspring.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Freshwater mussels, such as the Suwannee moccasinshell, siphon water into their shells and across four gills that are specialized for respiration, food collection, and brooding larvae in females. Food items include fine detritus (particles of organic debris), algae, diatoms, and bacteria (Strayer *et al.* 2004, pp. 430–431, Vaughn *et al.* 2008, p. 410). Adult mussels obtain food items both from the water column and from the

sediment, either by taking water in through the incurrent siphon or by moving material extracted from sediments into their shell using cilia (hair-like structures) on their foot. For the first several months, juvenile mussels feed primarily with their foot, although they also may filter interstitial (pore) water (Yeager *et al.* 1994, pp. 217–221). Food availability and quality for the Suwannee moccasinshell is affected by habitat stability, floodplain connectivity, flow, and water and sediment quality. Adequate food availability and quality is essential for normal behavior, growth, and viability during all life stages of this species.

The Suwannee moccasinshell is a riverine species that depends upon adequate amounts of flowing water. Flowing water transports food items to the sedentary juvenile and adult life stages, provides oxygen for respiration, removes wastes, transports sperm to females, and maintains the stream bottom habitats where the species is found (the effects of flow alteration on habitat is discussed below under *Habitats Protected From Disturbance*). A sufficient amount of continuously flowing water is a feature essential to this species.

Important water quality parameters for freshwater mussels include (but are not limited to) dissolved oxygen (DO), temperature, pH, salinity, and suspended sediment. As relatively sedentary animals, mussels must tolerate the full range of physical and chemical conditions that occur naturally within the streams where they persist, but many species are considered sensitive to disturbance. Water quality within the Suwannee River basin may vary according to season, geology, climate events, and human activities within the watershed. Dissolved oxygen (DO) and water temperature are important parameters for freshwater mussel early life stages, which are more sensitive to deviations from normal ranges. Water temperature also plays an important role in the overall water quality, including oxygen solubility and ammonia toxicity. Increased stream temperatures and decreased dissolved oxygen concentrations are important secondary effects

associated with flow reduction and cessation (Haag and Warren 2008, pp. 1174–1176). Sensitive mussel species like the Suwannee moccasinshell may suffer lethal and nonlethal effects to low dissolved oxygen levels and elevated stream temperatures (Gagnon *et al.* 2004, p. 672; Golladay *et al.* 2004, p. 501; Haag and Warren 2008, pp. 1174–1176; Spooner and Vaughn 2008, p. 313), and are particularly susceptible to these conditions during early life stages (Sparks and Strayer 1998, pp. 132–133; Pandolfo *et al.* 2010, p. 965; Archambault *et al.* 2013, p. 247). Water temperatures of not more than 91 °F (32 °C), and DO concentrations of not less than 5.0 milligrams per liter (mg/L) represent important thresholds for freshwater mussels (Sparks and Strayer 1998, pp. 132–133; Gagnon *et al.* 2004, p. 672; Pandolfo *et al.* 2010, p. 965; Khan *et al.* 2019, p. 6). The specific physical and chemical tolerance ranges needed by the Suwannee moccasinshell for normal behavior, growth, and viability of all life stages have not been investigated. In the absence of species-specific data, we are using the current numeric standards for water quality criteria adopted by the States under the Clean Water Act (CWA). We find these criteria represent sustainable levels for aquatic life that would provide for the conservation of the species.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Sites for breeding, reproduction, and development are tied to areas in stable rivers and creeks where flow velocities are sufficient to maintain habitats, and bottom substrates are composed of sand or a mixture of sand and gravel (see *Space for Individual and Population Growth and for Normal Behavior* above). Juvenile mussels depend upon areas where substrates remain stable during high flow events. The presence of large embedded logs may contribute to substrate stability and act as flow refuges. The larvae of most freshwater mussels are parasitic, requiring a period of encystment on a fish host in order to transform into juvenile mussels. Thus, the presence of appropriate host fishes to complete its reproductive life cycle is essential to the Suwannee moccasinshell. In

laboratory host trials, Suwannee moccasinshell larvae transformed primarily on the blackbanded darter (*Percina nigrofasciata*) and to a lesser extent on the brown darter (*Etheostoma edwini*) (Johnson *et al.* 2016, p. 171). The blackbanded darter is one of the most abundant darter species in coastal plain streams, and the distribution of both fish species overlap with the historical distribution of the Suwannee moccasinshell (Kuehne and Barbour 1983, pp. 29–30; Robins *et al.* 2018, pp. 317, 336).

Habitats Protected From Disturbance

The Suwannee moccasinshell's habitat has been impacted by pollution and reduced flows throughout its range, and by channel instability and excessive sedimentation in portions of its range (see *Factor A, The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* of the proposed listing rule).

An environment free from toxic levels of pollutants is essential to the Suwannee moccasinshell, especially to its early life stages. There is no specific information on the sensitivity of the species to common municipal, agricultural, and industrial pollutants. However, as a group, freshwater mussels are more sensitive to pollution than many other aquatic organisms and are one of the first species to respond to water quality impacts (Haag 2012, p. 355). A detailed discussion of pollution issues in the basin and potential effects to the Suwannee moccasinshell is provided in the proposed listing rule (80 FR 60335) under *Factor A*.

The Suwannee moccasinshell depends upon a natural flow regime to maintain its benthic habitats. Altered flow regimes (including higher peak flows, lower base flows, and changes to seasonal flow pulses) within the basin are attributable to altered stormwater runoff patterns, lowering of the groundwater table, recent periods of drought, and climate change. Developed areas and some agricultural lands shed water extremely quickly during storm events. Urban areas significantly affect water quantity because of

the high percentage of impervious cover and increases in water consumption. Rainfall on impervious surfaces is immediately transported to stream channels, causing increases in flow volume and velocity. These effects are discussed further in the next section and in the final listing rule under *Factor A, Stream Channel Instability*.

Because less infiltration occurs in developed areas, less groundwater recharge occurs and stream base flows may be reduced. The distinctive geology of the Suwannee River basin relies heavily on spring discharge to buffer the tannic waters of the mainstem, and groundwater recharge is limited in the region due to confinement of the aquifer. Over 250 springs located in this system have been threatened by increased demand for water resources within the basin and adjacent basins. The combined effects of groundwater pumping and prolonged droughts have resulted in lower groundwater tables and reduced flow and dewatering of basin streams and springs for extended periods (Grubbs and Crandall 2007, p. 78; Torak *et al.* 2010, pp. 46–47). The springs provide refugia for aquatic organisms during periods of drought when groundwater has the most influence on water quality and quantity. Recent surveys found the species only in portions of the basin with significant contributions from spring discharge and failed to locate the species in areas without this influence (Holcomb *et al.* 2018, pp. 99–100). The strong connection between spring discharge and Suwannee moccasinshell occupancy indicates that groundwater discharge via springs is important to maintaining flows and water quality needed by the species, especially during drought (Holcomb *et al.* 2018, p. 95).

Reductions in stream flow may also alter hydraulically mediated sediment sorting throughout the river, which may displace or otherwise alter Suwannee moccasinshell habitat. Climate scenarios for the years 2050 and 2080 predict changes to seasonal and annual hydrology of the Suwannee River basin due to a wetter and warmer climate in the region (Neupane *et al.* 2018, pp. 2232–2238). Within the basin, surface runoff is projected to increase as a result of increased precipitation, and summer stream flow is

projected to decrease substantially (up to 25%) by 2080 due to the effects of higher air temperature (Neupane *et al.* 2018, p. 2240).

Because freshwater mussels are relatively long-lived and have limited mobility, habitat stability is a requirement shared by nearly all freshwater mussels (Haag 2012, p. 106). Optimal substrate conditions for the Suwannee moccasinshell include consolidated sand or sand and gravel mixtures, without excessive accumulations of sediment or detritus, and that remain stable during high flows. These substrates are dependent on geomorphically stable stream channels and intact riparian areas (Allan *et al.* 1997, p. 149; Rosgen 1996, pp. 8–11). Stable stream channels consistently transport their sediment load, such that the stream bed neither degrades nor aggrades, and have lower suspended sediment loads (Rosgen 1996, pp. 1–3), which mussels require in order to efficiently feed, respire, and reproduce. Stable stream channels are formed and maintained by natural flow regimes, channel features (dimension, pattern, and profile), and natural sediment input to the system through periodic flooding, which maintains connectivity and interaction with the floodplain. Habitat instability is induced by changes in natural sediment or flow regimes, and by physical modifications to the stream channel or floodplain (channel instability is discussed further under *Factor A* of the final listing rule).

Summary of Essential Physical or Biological Features

We have determined that the following physical or biological features are essential to the conservation of Suwannee moccasinshell:

(1) Geomorphically stable stream channels (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(2) Stable substrates of muddy sand or mixtures of sand and gravel, and with little to no accumulation of unconsolidated sediments and low amounts of filamentous algae.

(3) A natural hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found, and connectivity of stream channels with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability, and spawning habitat for native fishes.

(4) Water quality conditions needed to sustain healthy Suwannee moccasinshell populations, including low pollutant levels (not less than State criteria), a natural temperature regime, pH (between 6.0 to 8.5), adequate oxygen content (not less than State criteria), hardness, turbidity, and other chemical characteristics necessary for normal behavior, growth, and viability of all life stages.

(5) The presence of abundant fish hosts necessary for recruitment of the Suwannee moccasinshell. The presence of blackbanded darters (*Percina nigrofasciata*) and brown darters (*Etheostoma edwini*) will serve as an indication of fish host presence.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features that are essential to the conservation of the species and which may require special management considerations or protection.

All three units that we are designating as critical habitat, including the unit that was occupied by the species at the time of listing, have mixed ownership of adjacent riparian lands, with mainly private (72 percent) and State (27 percent) lands (Table 1). All State-owned riparian lands are in Florida, and the majority are managed by Florida's Suwannee River Water Management District (District). Tracts are managed to maintain adequate water supply and water quality for natural systems by preserving riparian habitats and restricting development (SRWMD 2014, p. 3).

The District established minimum flows and levels for the lower Suwannee River,

downstream of Fanning Springs and for the upper Santa Fe River. Minimum flow and level criteria establish a limit at which further withdrawals would be detrimental to water resources, taking into consideration fish and wildlife habitats, the passage of fish, sediment loads, and water quality, among others (SRWMD 2005, pp. 6–8; SRWMD 2007, entire). In addition, the Suwannee River and Santa Fe River systems have been designated Outstanding Florida Waters, which prevents the permitted discharge of pollutants that would lower existing water quality of, or significantly degrade, such waters. While these programs may indirectly alleviate some detrimental impacts on aquatic habitats, there currently are no plans or agreements designed specifically for the conservation of the Suwannee moccasinshell or for freshwater mussels in general.

The features essential to the conservation of the Suwannee moccasinshell may require special management considerations or protection to ameliorate the following threats: altered flow regimes, nonpoint source pollution (from stormwater runoff or infiltration), point source pollution (from wastewater discharges or accidental releases), physical alterations to the stream channel (for example, dredging, straightening, impounding, etc.), and altered physical and chemical water quality parameters (especially, temperature, dissolved oxygen, turbidity, pH, and salinity). Special management considerations or protection may be required within critical habitat areas to ameliorate these threats, and include (but are not limited to): (1) moderation of surface and ground water withdrawals; (2) improvement of the treatment of wastewater discharged from permitted facilities and the operation of those facilities; (3) reductions in pesticide and fertilizer use especially in groundwater recharge areas and near stream channels; (4) use of best management practices designed to reduce sedimentation, erosion, and stream bank alteration; (5) protection and restoration of riparian buffers; and (6) avoidance of physical alterations to stream channels and adjacent floodplains. This list applies only to Federal actions (see the *Application of the “Adverse Modification”*

Standard below for more information).

Criteria Used to Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b), we review available information pertaining to the habitat requirements of the species and identify specific areas within the geographical area occupied by the species at the time of listing and any specific areas outside the geographical area occupied by the species to be considered for designation as critical habitat. As discussed in more detail below, we are designating critical habitat in areas within the geographical area occupied by the species at the time of listing. We also are designating specific areas outside the geographical area occupied by the species at the time of listing because we have determined that a designation limited to occupied areas would be inadequate – and therefore designation of unoccupied areas is essential – to ensure the conservation of the species.

On December 16, 2020, we published a final rule in the Federal Register (85 FR 81411) adding a definition of “habitat” to our regulations for purposes of critical habitat designations under the Endangered Species Act of 1973, as amended (Act). This rule became effective on January 15, 2021 and only applies to critical habitat rules for which a proposed rule was published after January 15, 2021. Consequently, this new regulation does not apply to this final rule.

The current distribution of the species is much reduced from its historical range. We anticipate that recovery will require continued protection of the existing population and its habitat, as well as reintroduction of Suwannee moccasinshell into historically occupied areas, ensuring there are multiple viable populations and that they occur over a wide geographic area. Range-wide recovery considerations, such as maintaining existing genetic diversity and striving for representation of all major portions of the species’

current range, were considered in formulating the critical habitat.

For this rule, we delineated critical habitat unit boundaries using the following criteria:

(1) We compiled all available occurrence data records.

(2) We used confirmed presences between the years 2000 and 2016 as the foundation for identifying areas currently occupied.

(3) We evaluated habitat suitability of stream segments currently occupied by the species and retained all occupied stream segments.

(4) We evaluated unoccupied stream segments for suitability, connectivity, and expansion, and identified areas containing the components comprising the physical or biological features that may require special management considerations or protection.

(5) We omitted some unoccupied areas that are highly degraded and are not likely restorable (*e.g.*, insufficient flowing water, channel destabilized), and, therefore, are not considered essential for the conservation of the species.

(6) We delineated boundaries of critical habitat units based on the above information.

Specific criteria and methodology used to determine critical habitat unit boundaries are discussed below.

Sources of data for this critical habitat designation include multiple databases maintained by Florida Fish and Wildlife Conservation Commission, Dr. James D. Williams, Florida Museum of Natural History, and U.S. Geological Survey; verified museum records from multiple institutions (*see Methods* in Johnson *et al.* 2016, pp. 164–165); and a status report by Blalock–Herod and Williams (2001, entire). Historical and recent occurrence data included records collected from May 1916 to March 2016. Many surveys were conducted throughout the Suwannee River basin by Florida Fish and Wildlife Conservation Commission biologists during 2012–2016, and all sites with

historical occurrences of Suwannee moccasinshell were sampled during this period.

Sources of information pertaining to habitat requirements of the Suwannee moccasinshell include observations recorded during surveys and information contained in Blalock–Herod and Williams (2001, entire) and Williams *et al.* (2014, pp. 278–280).

Areas Occupied at the Time of Listing

We define “currently occupied” as river reaches with positive surveys from 2000 to 2016. In making these determinations, we recognized that known occurrences for some mussel species are extremely localized, and rare mussels can be difficult to locate. In addition, stream habitats are highly dependent upon upstream and downstream channel habitat conditions for their maintenance. Therefore, we considered the entire reach between the uppermost and lowermost currently occupied locations to delineate the probable upstream and downstream extent of the Suwannee moccasinshell’s distribution. Within the current range of the species, some habitats may or may not be actively utilized by individuals, but we consider these areas to be occupied at the scale of the geographic range of the species.

We are designating as critical habitat for the Suwannee moccasinshell one occupied unit in the Suwannee River and lower Santa Fe River. This area contains one or more of the physical or biological features essential to the conservation of the Suwannee moccasinshell, and those physical or biological features may require special management conditions or protections. However, this single population provides little redundancy for the species, and a series of back-to-back stochastic events or a single catastrophic event could significantly reduce or extirpate this one population. Consequently, we have determined that the occupied area is inadequate to ensure the conservation of the species. Therefore, we have also identified, and are designating as critical habitat, unoccupied areas that are essential for the conservation of the species.

Areas Not Occupied at the Time of Listing

We are designating two unoccupied units as critical habitat. The units have some of the physical or biological features essential to the conservation of the species, and we are reasonably certain that each will contribute to the conservation of the species. Our specific rationale for each unit can be found in the unit descriptions below.

An examination of all available collection data shows that the Suwannee moccasinshell's range and numbers have declined over time (see "Distribution and Abundance" discussion in the final listing rule). For example, despite considerable survey effort, the species has not been collected in the lower Suwannee River or Withlacoochee River sub-basins since the 1960s, and was last collected in the upper Santa Fe River sub-basin in 1996 (Johnson *et al.* 2016, p. 170). There has also been a reduction in numbers, with fewer individuals encountered during recent surveys than were collected historically (Johnson *et al.* 2016, pp. 166, 170).

The Suwannee moccasinshell's reduced range and small population size may increase its vulnerability to many threats. Aquatic species with small ranges, few populations, and small or declining population sizes are the most vulnerable to extinction (Primack 2008, p. 137; Haag 2012, p. 336). The effects of certain environmental pressures, particularly habitat degradation and loss, catastrophic weather events, and introduced species, are greater when population size is small (Soulé 1980, pp. 33, 71; Primack 2008, pp. 133–137, 152). Threats to the Suwannee moccasinshell are compounded by its reduced and linear distribution, with nearly the entire population presently distributed within the Suwannee River mainstem. A small population also occurs in the lower Santa Fe River; however, only 5 recent collections (3 of which are relic shell) have been reported in this sub-basin (Johnson *et al.* 2016, p. 171).

A larger population of Suwannee moccasinshell occurring over a wide geographic area can have higher resilience. A large population is better able to return to pre-disturbance numbers after stochastic events, and also has increased availability of mates

and reduced risk of genetic drift and inbreeding depression. The minimum viable population size needed to withstand stochastic events is not known for mussels. For species with complex life histories like freshwater mussels, maximizing the chances of viability over the long term, likely requires a population of considerable size (Haag 2012, p. 371). Reestablishing viable populations in the Withlacoochee and upper Santa Fe River sub-basins increases Suwannee moccasinshell redundancy by expanding its range into historically occupied areas, potentially increasing population size, and providing refuge from catastrophic events (for example, flooding and spills) in the Suwannee River.

We determined the Withlacoochee and upper Santa Fe River sub-basins have the potential for future reoccupation by the species, provided that stressors are managed and mitigated. These specific areas encompass the minimum area of the species' historical range within the critical habitat designation, while still providing ecological diversity so that the species has the ability to evolve and adapt over time (representation) to ensure that the species has an adequate level of redundancy to guard against future catastrophic events. These areas also represent the stream reaches within the historical range with the best potential for recovery of the species due to their current conditions and likely suitability for reintroductions. Accordingly, we are designating one unoccupied unit in the upper Santa Fe River and one unoccupied unit in the Withlacoochee River. As described below in the individual unit descriptions, each unit contains one or more of the physical or biological features and is reasonably certain to contribute to the conservation of the species.

General Information on the Maps of the Critical Habitat Designation

The critical habitat streams were mapped with USGS National Hydrography Dataset GIS data. The high-resolution 1:24,000 flowlines were used to delineate the upstream and downstream boundaries of the critical habitat units and to calculate river kilometers and miles, according to the criteria explained below. The downstream

boundary of a unit is the confluence of a named tributary stream or spring, below the farthest downstream occurrence record. The upstream boundary is the confluence of the first major tributary, road-crossing bridge, or a permanent barrier to fish passage above the farthest upstream occurrence record. The confluence of a large tributary typically marks a significant change in the size of the stream and is a logical and recognizable upstream terminus. Likewise, a dam or other barrier to fish passage marks the upstream extent to which mussels may disperse via their fish hosts. In the unit descriptions, distances between landmarks marking the upstream or downstream extent of a stream segment are given in river kilometers (km) and equivalent miles (mi), as measured tracing the course of the stream, not straight-line distance.

The areas designated as critical habitat include only stream channels within the ordinary high-water line. States were granted ownership of lands beneath navigable waters up to the ordinary high-water line upon achieving statehood (*Pollard v. Hagan*, 44 U.S. (3 How.) 212 (1845)). Prior sovereigns or the States may have made grants to private parties that included lands below the ordinary high-water mark of some navigable waters that are included in this rule. Most, if not all, lands beneath the navigable waters included in this final rule are owned by the States of Florida and Georgia. The lands beneath most non-navigable waters included in this final rule are in private ownership.

There are no developed areas within the critical habitat boundaries except for transportation crossings, which do not remove the suitability of these areas for this species. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this rule have been excluded by text in the rule and are not designated as critical habitat. Therefore, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the

specific action would affect the physical or biological features in the adjacent critical habitat.

The critical habitat designation is defined by these maps, as modified by any accompanying regulatory text, presented at the end of this document in the text of the rule itself. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. The coordinates on which each map is based are available at the Service’s internet site, (<https://www.fws.gov/panamacity>), (<http://www.regulations.gov>) at Docket No. FWS–R4–ES–2019–0059, and at the field office responsible for this designation (see **FOR FURTHER INFORMATION CONTACT** above).

Final Critical Habitat Designation

We are designating approximately 306 km (190 mi) of stream channel in three units as critical habitat for the Suwannee moccasinshell. The three units we are designating as critical habitat are: Unit 1: Suwannee River, Unit 2: Upper Santa Fe River, and Unit 3: Withlacoochee River. About 81 percent of critical habitat for the Suwannee moccasinshell is already designated as critical habitat for either of two ESA-listed species: the oval pigtoe (*Pleurobema pyriforme*) or the Gulf sturgeon (*Acipenser oxyrinchus desotoi*). The table below shows the critical habitat units for the Suwannee moccasinshell and ownership of riparian lands adjacent to the units.

Table of critical habitat units for the Suwannee moccasinshell. [Ownership of riparian lands adjacent to the units is given for each streambank in kilometers (km) and miles (mi). Lengths greater than 10 kilometers are rounded to the nearest whole kilometer and mile.]

Bank	Private km (mi)	State km (mi)	County km (mi)	Unit length km (mi)
Unit 1: Suwannee River, FL				187 (116.2)
Right descending bank*	133 (83)	51 (31)	3.1 (1.9)	
Left descending bank*	133 (83)	53 (33)	1.5 (0.9)	
<i>Total</i>	<i>266 (165)</i>	<i>103 (64)</i>	<i>4.6 (2.9)</i>	

Unit 2: Upper Santa Fe River, FL				43 (26.7)
Right descending bank	34 (21)	8.4 (5.2)	0.4 (0.3)	
Left descending bank	26 (16)	13 (8)	3.6 (2.2)	
<i>Total</i>	<i>61 (38)</i>	<i>22 (13)</i>	<i>4 (2.5)</i>	
Unit 3: Withlacoochee River, FL and GA				75.5 (46.9)
Right descending bank	58 (36)	17 (11)	0	
Left descending bank	53 (33)	22 (14)	0	
<i>Total</i>	<i>112 (69)</i>	<i>39 (25)</i>	<i>0</i>	

Note: Totals may not sum due to rounding.

*Right and left descending bank is that bank of a stream when facing in the direction of flow or downstream.

We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for the Suwannee moccasinshell, below.

Unit 1: Suwannee River, Florida

Unit 1 consists of approximately 187 km (116 mi) of the Suwannee River and lower Santa Fe River in Alachua, Columbia, Dixie, Gilchrist, Lafayette, Madison, and Suwannee Counties, Florida. The unit includes the Suwannee River mainstem from the confluence of Hart Springs (near river kilometer 71) in Dixie and Gilchrist Counties, upstream 137 km (85 mi) to the confluence of the Withlacoochee River in Madison and Suwannee Counties; and the Santa Fe River from its confluence with the Suwannee River in Suwannee and Gilchrist Counties, upstream 50 km (31 mi) to the river’s rise in Alachua County. The Santa Fe River flows underground for about 5 km (3.1 mi), “sinking” at O’Leno State Park and “rising” at River Rise Preserve State Park. The lower and upper portions of the Santa Fe River are intermittently connected during high flow events. The riparian lands along stream reaches in this unit are generally privately owned agricultural or silvicultural lands, or State-owned or -managed conservation lands (Table 1).

The Suwannee moccasinshell occupies all stream reaches in this unit, which contains most of the physical or biological features essential to the conservation of the Suwannee moccasinshell. However, decreases in stream flow and changes in water

quality, especially increased nitrogen loads and algae growth, are recognized issues in all stream reaches within the unit (SRWMD 2017, pp. 26–27, 42–50). During drought, depressed dissolved oxygen levels and elevated water temperatures may also be degraded in some reaches. Therefore, physical or biological features 3 and 4 are not consistently present in the unit. Currently, 73 percent of Unit 1 is designated critical habitat for the Gulf sturgeon (a migratory fish). Some small urban areas also are located near the two rivers.

Special management considerations and protections that may be required to address threats within the unit include: minimizing ground and surface water withdrawals or other actions that alter stream hydrology; reducing the use of fertilizers and pesticides, especially in spring recharge areas and near stream channels; improving treatment of wastewater discharged from permitted facilities and the operation of those facilities; implementing practices that protect or restore riparian buffer areas along stream corridors; avoidance of physical alterations to the stream channel and floodplain; prohibiting the removal of pre-cut submerged timber (deadhead logs); and establishing and enforcing restrictions on boat speed and length, especially in the lower Santa Fe River. Many of these measures would also be implemented in stream reaches upstream of the unit to adequately protect habitat within the unit. For example, a large surface mining project is proposed adjacent the New River within the upper Santa Fe River watershed. If the mining operation and its associated structures are constructed as currently proposed, we anticipate that physical or biological features 3 and 4 would be negatively impacted to a significant degree within the unit. In addition, groundwater discharge via springs is important to maintaining flows and water quality needed by the species, especially during drought (Holcomb *et al.* 2018, p. 95). Therefore, spring recharge areas and aquifers may

also need to be protected in order to fully address threats within the unit.

Unit 2: Upper Santa Fe River, Florida

Unit 2 consists of approximately 43 km (27 mi) of the Santa Fe River and New River in Alachua, Bradford, Columbia, and Union Counties, Florida. The unit includes the Santa Fe River from the river's sink in Alachua County, upstream 36.5 km (23 mi) to the confluence of Rocky Creek in Bradford and Alachua Counties; and the New River from its confluence with the Santa Fe River, upstream 6.5 km (4 mi) to the confluence of Five Mile Creek in Union and Bradford Counties. The riparian lands along stream channels in this unit are generally privately owned agricultural or silvicultural lands, or are State-owned or -managed conservation lands (Table 1). All of Unit 2 is also designated critical habitat for the oval pigtoe (a freshwater mussel). The Suwannee moccasinshell was routinely represented in historical collections in the upper Santa Fe sub-basin; however, it is the only mussel species not detected in contemporary surveys. Unit 2 retains the features of a natural stream channel and presently supports a diverse mussel fauna, including several mussel species known to co-occur with the Suwannee moccasinshell. This unit has at least one of the physical or biological features essential to the conservation of the species, and we are reasonably certain that this area will contribute to the conservation of the species. Our specific rationale for this unit can be found below.

This area is essential for the conservation of the species because it would improve its resiliency and redundancy of the species, which is necessary to conserve and recover the Suwannee moccasinshell. To improve the species' overall viability by increasing resiliency and redundancy, it is important to reestablish Suwannee moccasinshell populations in its former range in the Santa Fe River sub-basin (i.e., Unit 2). Presently, nearly the entire population of the species is linearly distributed within the Suwannee River and vulnerable to catastrophic events (for example, contaminant spills or severe

floods), as well as to random fluctuations in population size or environmental conditions (Haag and Williams 2014, p. 48). Therefore, reestablishing populations in Unit 2 would reduce its extinction risk by expanding its current range into areas beyond the mainstem by providing connectivity to already occupied areas, space for growth and population expansion in portions of historical habitat, and refugia areas from threats in the Suwannee River.

Although it is considered unoccupied, portions of this unit contain some or all of the physical or biological features essential for the conservation of the species. Unit 2 possesses characteristics described by physical or biological features 1 and 2 as long reaches of stable stream channel and suitable substrates are present throughout much of the unit. Unit 2 retains the features of a natural stream channel and presently supports a diverse mussel fauna, including several mussel species that ordinarily co-occur with the Suwannee moccasinshell. Both fish species found to serve as larval hosts for the Suwannee moccasinshell occur within the unit (Robins et al. 2018, pp. 317, 336). Physical or biological features 3 and 4 are degraded in the Unit during some times of the year. Flow levels in the upper Santa Fe River have declined over time, and the river has ceased to flow multiple times since 2000 (Johnson et al. 2016, p. 170). An important effect of reduced flows is altered water quality, especially depressed dissolved oxygen levels and elevated water temperatures (discussed above under “Physical or Biological Features”). In 2007, the District developed minimum flow levels to establish flows protective of “fish and wildlife habitats and the passage of fish” in the upper Santa Fe River (SRWMD 2007, entire). The restoration of natural flow levels is a complex issue that will require considerable involvement and collaboration of Federal, State, and local governments and private landowners to implement projects that reduce groundwater pumping in order to recover aquifer levels and sustain base flows in the upper Santa Fe River sub-basin. However, if implemented, water management strategies would improve

physical or biological features 3 and 4. The need for conservation efforts is recognized by our conservation partners, and methods for restoring natural flow regimes and reintroducing the species into unoccupied habitat are being advocated and developed. Accordingly, we are reasonably certain this unit will contribute to the conservation of the species.

Unit 3: Withlacoochee River, Georgia and Florida

Unit 3 consists of approximately 75.5 km (47 mi) of the Withlacoochee River in Madison and Hamilton Counties, Florida, and Brooks and Lowndes Counties, Georgia. The unit includes the Withlacoochee River from its confluence with the Suwannee River in Madison and Hamilton Counties, FL, upstream 75.5 km (47 mi) to the confluence of Okapilco Creek in Brooks and Lowndes Counties, GA. The riparian lands along stream channels in this unit are generally privately owned agricultural or silvicultural lands (Table 1). Unit 3 is within the historical range of the Suwannee moccasinshell but is not currently occupied by the species. Twenty-five percent of Unit 3 is also designated critical habitat for the Gulf sturgeon. Unit 3 retains the features of a natural stream channel and supports a diverse mussel fauna, including several mussel species known to co-occur with the Suwannee moccasinshell. This unit has at least one of the physical or biological features essential to the conservation of the species and we are reasonably certain that this area will contribute to the conservation of the species. Our specific rationale for this unit can be found below.

This area is essential for the conservation of the species because it would improve the resiliency and redundancy of the species, which is necessary to conserve and recover the Suwannee moccasinshell. Presently, nearly the entire population of the species is linearly distributed within the Suwannee River (see Unit 1 above) and vulnerable to catastrophic events (for example, contaminant spills or severe floods) as well as to random fluctuations in population size or environmental conditions (Haag and Williams

2014, p. 48). Reestablishing populations in Withlacoochee River sub-basin would reduce its extinction risk by expanding its current range into areas beyond the mainstem by providing connectivity to already occupied areas, space for growth and population expansion in portions of historical habitat, and refugia areas from threats in the Suwannee River.

Although it is considered unoccupied, portions of this unit contain some or all of the physical or biological features essential for the conservation of the species.

Specifically, Unit 3 possesses characteristics described by physical or biological features 1 and 2 as long reaches of stable stream channel with suitable substrates are present within the unit. Unit 3 retains the features of a natural stream channel and supports a diverse mussel fauna, including several mussel species that ordinarily co-occur with the Suwannee moccasinshell. Both fish species found to serve as larval hosts for the Suwannee moccasinshell occur within the unit (Robins et al. 2018, pp. 317, 336). Therefore, we find that the unit has the potential to support the species' life-history functions.

Physical or biological feature 4 is in degraded condition, and pollution may have contributed to the Suwannee moccasinshell's decline in Unit 3. The domestic wastewater treatment plant for the city of Valdosta, GA is approximately 14 river miles upstream of the unit and has a history of untreated sewage releases to the Withlacoochee River after heavy rain events. However, major renovations to the city's sewer system were completed in June 2016 with the construction of a new treatment plant. Additional projects to address continued problems with sewage spills are ongoing, and the construction of a large retention basin is planned. If these improvements are realized, water quality could be restored to levels necessary to support the species.

The need for conservation efforts is recognized by our conservation partners, and methods for restoring and reintroducing the species into unoccupied habitat are being

developed. The Florida Fish and Wildlife Conservation Commission and Georgia Department of Natural Resources have expressed support for including this area in a critical habitat designation (Florida Fish and Wildlife Conservation Commission 2019; Georgia Department of Natural Resources 2018). Accordingly, we are reasonably certain this unit will contribute to the conservation of the species.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action that is likely to jeopardize the continued existence of any species listed under the Act or result in the destruction or adverse modification of critical habitat.

We published a final regulation with a new definition of destruction or adverse modification on August 27, 2019 (84 FR 45020). Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, Tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not

affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

Compliance with the requirements of section 7(a)(2), is documented through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define “reasonable and prudent alternatives” (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency’s legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director’s opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation

on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies sometimes may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Overall, about 81 percent of critical habitat proposed for the Suwannee moccasinshell is already designated as critical habitat for either the oval pigtoe or Gulf sturgeon. For Federal actions within areas already designated as critical habitat for these species, conservation measures we would recommend for the Suwannee moccasinshell are likely to be the same or very similar to those we already recommend for the oval pigtoe and Gulf sturgeon. New additional conservation measures will, however, likely be needed within that portion of Unit 3 that is unoccupied by the Suwannee moccasinshell but not currently designated critical habitat for the Gulf sturgeon.

Application of the "Destruction or Adverse Modification" Standard

The key factor related to the destruction or adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that result in a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of the Suwannee moccasinshell. As discussed above, the role of critical habitat is to support physical or biological features essential to the conservation of a listed species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any

proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that may affect critical habitat, when carried out, funded, or authorized by a Federal agency, should result in consultation for the Suwannee moccasinshell. These activities include, but are not limited to:

(1) Actions that would introduce contaminants or alter water chemistry or temperature. Such activities could include, but are not limited to, release of chemical or biological pollutants, or heated effluents into the surface water or connected groundwater at a point source or by dispersed release (nonpoint source). These activities could alter water quality conditions to levels that are beyond the tolerances of the mussel or its fish host.

(2) Actions that would reduce flow levels or alter flow regimes. This could include, but is not limited to, activities that lower groundwater levels including groundwater pumping and surface water withdrawal or diversion. These activities can result in long-term reduced stream flows, which may cause streams to stop flowing or dry up; and also may decrease oxygen levels, elevate water temperatures, degrade water quality, and cause sediments to accumulate. These activities could alter flow levels beyond the tolerances of the mussel or its fish host.

(3) Actions that would significantly increase the filamentous algal community within the stream channel. Such activities could include, but are not limited to, release of nutrients into the surface water or connected groundwater at a point source or by dispersed release (nonpoint source). These activities can result in excessive filamentous algae filling streams and reducing habitat for the mussel and its fish host, degrading water quality during their decay, and decreasing oxygen levels at night from their respiration. Thick algal mats can also entrain young mussels and prevent juveniles from settling into

the sediment. These activities could degrade the habitat and reduce oxygen levels below the tolerances of the mussel or its fish host.

(4) Actions that would significantly alter channel morphology or cause channel instability. Such activities could include but are not limited to channelization, impoundment, road and bridge construction, mining, dredging, destruction of riparian vegetation, and land clearing. These activities may lead to changes in flow regimes, erosion of the streambed and banks, and excessive sedimentation that could degrade the habitat of the mussel or its fish host.

(5) Actions that would cause significant amounts of sediments to enter the stream channel. Such activities could include but are not limited to livestock grazing, road and bridge construction, channel alteration, incompatible with best management practices, commercial and residential development, and other watershed and floodplain disturbances. These activities could eliminate or degrade the habitat necessary for the growth and reproduction of the mussel or its fish host.

Exemptions

Application of Section 4(a)(3) of the Act

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: “The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan [INRMP] prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.” There are no Department of Defense (DoD) lands with a completed INRMP within the final critical habitat designation.

Consideration of Impacts Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make

revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making the determination to exclude a particular area, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor. On December 18, 2020, we published a final rule in the Federal Register (85 FR 82376) revising portions of our regulations pertaining to exclusions of critical habitat. These final regulations became effective on January 19, 2021 and apply to critical habitat rules for which a proposed rule was published after January 19, 2021. Consequently, these new regulations do not apply to this final rule.

When considering the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation; the continuation, strengthening, or encouragement of partnerships; or implementation of a management plan. In the case of the Suwannee moccasinshell, the benefits of critical habitat include public awareness of the presence of the species and the importance of habitat protection, and, where a Federal nexus exists, increased habitat protection for the Suwannee moccasinshell due to protection from adverse modification or destruction of critical habitat. In practice, situations with a Federal nexus exist primarily on Federal lands or for projects undertaken by Federal agencies. Additionally, continued implementation of an ongoing management plan that provides equal to or more conservation than a critical habitat designation would reduce the benefits of including that specific area in the critical habitat designation.

We describe below the process that we undertook for taking into consideration each category of impacts and our analyses of the relevant impacts.

Consideration of Economic Impacts

Section 4(b)(2) of the Act and its implementing regulations require that we consider the economic impact that may result from a designation of critical habitat. To assess the probable economic impacts of a designation, we must first evaluate specific land uses or activities and projects that may occur in the area of the critical habitat. We then must evaluate the impacts that a specific critical habitat designation may have on restricting or modifying specific land uses or activities for the benefit of the species and its habitat within the designated areas. We then identify which conservation efforts may be the result of the species being listed under the Act versus those attributed solely to the designation of critical habitat for this particular species. The probable economic impact of a critical habitat designation is analyzed by comparing scenarios both “with critical habitat” and “without critical habitat.”

The “without critical habitat” scenario represents the baseline for the analysis, which includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat (*e.g.*, under the Federal listing as well as other Federal, State, and local regulations). The baseline, therefore, represents the costs of all efforts attributable to the listing of the species under the Act (*i.e.*, conservation of the species and its habitat incurred regardless of whether critical habitat is designated). The “with critical habitat” scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts would not be expected without the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat, above and beyond the baseline costs. These are the costs we use when

evaluating the benefits of inclusion and exclusion of particular areas from the final designation of critical habitat should we choose to conduct an optional section 4(b)(2) exclusion analysis.

For this designation, we developed an incremental effects memorandum (IEM) considering the probable incremental economic impacts that may result from this designation of critical habitat. The information contained in our IEM was then used to develop a screening analysis of the probable effects of the designation (Industrial Economics 2020, entire). The purpose of the screening analysis is to filter out the geographic areas in which the critical habitat designation is unlikely to result in probable incremental economic impacts. In particular, the screening analysis considers baseline costs (*i.e.*, absent critical habitat designation) and includes probable economic impacts where land and water use may be subject to conservation plans, land management plans, best management practices, or regulations that protect the habitat area as a result of the Federal listing status of the species. The screening analysis filters out particular areas of critical habitat that are already subject to such protections and are, therefore, unlikely to incur incremental economic impacts. Ultimately, the screening analysis allows us to focus our analysis on evaluating the specific areas or sectors that may incur probable incremental economic impacts as a result of the designation. The screening analysis also assesses whether units unoccupied by the species may require additional management or conservation efforts as a result of the critical habitat designation, and thus may incur incremental economic impacts. This screening analysis, combined with the information contained in our IEM, constitute our economic analysis of the critical habitat designation for the Suwannee moccasinshell and is summarized in the narrative below.

Executive Orders 12866 and 13563 direct Federal agencies to assess the costs and benefits of available regulatory alternatives in quantitative (to the extent feasible) and qualitative terms. Consistent with the E.O. regulatory analysis requirements, our effects

analysis under the Act may take into consideration impacts to both directly and indirectly affected entities, where practicable and reasonable. If sufficient data are available, we assess to the extent practicable the probable impacts to both directly and indirectly affected entities. As part of our screening analysis, we considered the types of economic activities that are likely to occur within the areas likely affected by the critical habitat designation. In our evaluation of the probable incremental economic impacts that may result from the designation of critical habitat for the Suwannee moccasinshell, first we identified, in the IEM dated June 30, 2016, probable incremental economic impacts associated with the following categories of activities: (1) groundwater pumping; (2) agriculture; (3) mining; (4) grazing; (5) discharge of chemical pollutants; (6) roadway and bridge construction; (7) in-stream dams and diversions; (8) dredging; (9) commercial or residential development; (10) timber harvest; and (11) removal of large in-channel logs. We considered each industry or category individually. Additionally, we considered whether these activities would have any Federal involvement.

Critical habitat designation generally will not affect activities that do not have any Federal involvement; under the Act, the designation of critical habitat only affects activities conducted, funded, permitted, or authorized by Federal agencies. In areas where the Suwannee moccasinshell is present, Federal agencies already are required to consult with the Service under section 7 of the Act on activities they fund, permit, or implement that may affect the species. Consultations to avoid the destruction or adverse modification of critical habitat will be incorporated into the existing consultation process.

In our IEM, we attempted to clarify the distinction between the effects that will result from the species being listed and those attributable to the critical habitat designation (*i.e.*, difference between the jeopardy and adverse modification standards) for the Suwannee moccasinshell's critical habitat. The following specific circumstances in this case help to inform our evaluation: (1) The physical or biological features identified

for occupied critical habitat are the same features essential for the life requisites of the species and (2) any actions that would result in sufficient harm or harassment to constitute jeopardy to the Suwannee moccasinshell would also likely adversely affect the essential physical or biological features of occupied critical habitat. The IEM outlines our rationale concerning this limited distinction between baseline conservation efforts and incremental impacts of the designation of critical habitat for this species.

The final critical habitat designation for the Suwannee moccasinshell totals approximately 306 kilometers (190 miles) of stream channels in three units. The riparian lands adjacent to critical habitat are under private (72 percent), State (27 percent), and county (1 percent) ownership. Unit 1 is the only occupied unit and is 61 percent of the critical habitat designation. As discussed above, in this occupied area, any actions that may affect the species or its habitat would also affect designated critical habitat and it is unlikely that any additional conservation efforts would be recommended to address the adverse modification standard over and above those recommended as necessary to avoid jeopardizing the continued existence of the Suwannee moccasinshell. Therefore, only administrative costs are expected in actions affecting this unit. While this additional analysis will require time and resources by both the Federal action agency and the Service, it is believed that, in most circumstances, these costs, because they are predominantly administrative in nature, would not be significant.

Units 2 and 3 are currently unoccupied by the species but are essential for the conservation of the species. These units total 119 km (78 mi) and comprise 39 percent of the critical habitat designation. In these unoccupied areas, any conservation efforts or associated probable impacts would be considered incremental effects attributed to the critical habitat designation.

The screening analysis finds that the total annual incremental costs of critical habitat designation for the Suwannee moccasinshell are anticipated to be less than

\$100,000 per year. The highest costs are anticipated in Unit 3 because it is unoccupied by the species and is not already designated critical habitat for another mussel species (for comparison, see discussion for Unit 2 below). In this unit, the designation is anticipated to result in a small number of additional section 7 consultations (approximately three per year), primarily related to planned transportation projects that intersect the unit.

Anticipated project modifications may include minimizing the extent of in-channel maintenance activities, relocation of discharge outfalls, or requiring strict adherence of water quality and habitat protections. Total annual costs to the Service and action agencies for consultations and project modifications in Unit 3 are anticipated to be less than \$80,000 annually (Industrial Economics 2020, pp. 9–12).

In Units 1 and 2, the economic costs of implementing the rule will most likely be limited to additional administrative efforts by the Service and action agencies to consider adverse modification. Unit 1 is occupied by the Suwannee moccasinshell, and conservation actions taken in order to be protective of the species would also be sufficient to protect its critical habitat. Unit 2 is also designated as critical habitat for the oval pigtoe, a freshwater mussel with nearly identical physical or biological features to the Suwannee moccasinshell. Conservation efforts taken to protect oval pigtoe critical habitat would also be sufficient to protect Suwannee moccasinshell critical habitat. Thus, additional project modifications are not anticipated in Units 1 and 2. In total, up to six section 7 consultations per year are anticipated to occur in Units 1 and 2, with total costs of less than \$20,000 annually (Industrial Economics 2020, pp. 7–9).

Exclusions

Exclusions Based on Economic Impacts

We solicited data and comments from the public regarding the economic analysis, as well as all aspects of the proposed rule. We did not receive any additional information on economic impacts during the public comment period to determine whether any

specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Based on the above-described consideration of the economic impacts of the critical habitat designation, the Secretary is not exercising his discretion to exclude any areas from this designation of critical habitat for the Suwannee moccasinshell based on economic impacts.

A copy of the IEM and economic screening analysis with supporting documents may be obtained by contacting the Panama City Ecological Services Field Office or from the field office's website (see **ADDRESSES**).

Exclusions Based on Impacts to National Security and Homeland Security

In preparing this rule, we determined that none of the lands within the designated critical habitat for the Suwannee moccasinshell are owned or managed by the Department of Defense or Department of Homeland Security, and, therefore, we anticipate no impact on national security or homeland security. We did not receive any additional information during the public comment period for the proposed designation regarding impacts of the designation on national security or homeland security that would support excluding any specific areas from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we considered any other relevant impacts, in addition to economic impacts and impacts on national security. We considered a number of factors including whether there are permitted conservation plans covering the species in the area such as HCPs, safe harbor agreements, or candidate conservation agreements with assurances, or whether there are non-permitted conservation agreements and partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we looked at the existence of Tribal conservation plans and

partnerships and consider the government-to-government relationship of the United States with Tribal entities. We also considered any social impacts that might occur because of the designation.

In preparing this final rule, we determined that there are currently no HCPs or other management plans for the Suwannee moccasinshell, and the final designation does not include any Tribal lands or trust resources. Therefore, we anticipate no impact on Tribal lands, partnerships, or HCPs from this final critical habitat designation. We did not receive any additional information during the public comment period for the proposed rule regarding other relevant impacts to support excluding any specific areas from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19. Accordingly, the Secretary is not exercising his discretion to exclude any areas from this final designation based on other relevant impacts.

Required Determinations

Regulatory Planning and Review (Executive Orders 12866 and 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules. OIRA has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and

an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C. 801 *et seq.*), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term

“significant economic impact” is meant to apply to a typical small business firm’s business operations.

Under the RFA, as amended, and as understood in the light of recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself; in other words, the RFA does not require agencies to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by the agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies would be directly regulated with the critical habitat designation. There is no requirement under the RFA to evaluate the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities would be directly regulated by this rulemaking, the Service certifies that the critical habitat designation will not have a significant economic impact on a substantial number of small entities.

In summary, we have considered whether the designation would result in a significant economic impact on a substantial number of small entities. For the above reasons and based on currently available information, we certify that the critical habitat designation will not have a significant economic impact on a substantial number of small business entities. Therefore, a regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of

Energy Effects when undertaking certain actions. In our economic analysis, we did not find that this critical habitat designation would significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both “Federal intergovernmental mandates” and “Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)–(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or tribal governments” with two exceptions. It excludes “a condition of Federal assistance.” It also excludes “a duty arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal Government’s responsibility to provide funding,” and the State, local, or tribal governments “lack authority” to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. “Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of

Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.”

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because it would not produce a Federal mandate of \$100 million or greater in any year; that is, it is not a “significant regulatory action” under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments. By definition, Federal agencies are not considered small entities, although the activities they fund or permit may be proposed or carried out by small entities. Consequently, we do not believe that the critical habitat designation would significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

Takings—Executive Order 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential

takings implications of designating critical habitat for the Suwannee moccasinshell in a takings implications assessment. The Act does not authorize the Service to regulate private actions on private lands or confiscate private property as a result of critical habitat designation. Designation of critical habitat does not affect land ownership, or establish any closures, or restrictions on use of or access to the designated areas. Furthermore, the designation of critical habitat does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. However, Federal agencies are prohibited from carrying out, funding, or authorizing actions that would destroy or adversely modify critical habitat. A takings implications assessment has been completed and concludes that this designation of critical habitat for the Suwannee moccasinshell does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this critical habitat designation with, appropriate State resource agencies. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule does not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly

defined, and the physical or biological features of the habitat necessary for the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist State and local governments in long-range planning because they no longer have to wait for case-by-case section 7 consultations to occur.

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) of the Act would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule would not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have designated critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, this rule identifies the elements of physical or biological features essential to the conservation of the species. The areas of designated critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain information collection requirements, and a submission to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) is not required. We may not conduct or sponsor and you

are not required to respond to a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to the National Environmental Policy Act in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the *Federal Register* on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We have determined that no Tribal lands would be affected by the designation.

References Cited

A complete list of references cited in this rulemaking is available on the Internet at <http://www.regulations.gov> and upon request from the Panama City Ecological

Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this rulemaking are staff of the Panama City Ecological Services Field Office.

Signing Authority

The Director, U.S. Fish and Wildlife Service, approved this document and authorized the undersigned to sign and submit the document to the Office of the Federal Register for publication electronically as an official document of the U.S. Fish and Wildlife Service. Martha Williams, Principal Deputy Director Exercising the Delegated Authority of the Director, U.S. Fish and Wildlife Service, approved this document on June 23, 2021, for publication.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; 4201–4245; unless otherwise noted.

2. Amend § 17.11 in paragraph (h) by revising the entry for “Moccasinshell, Suwannee” under “Clams” in the List of Endangered and Threatened Wildlife to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
* * * * *				
CLAMS				
* * * * *				
Moccasinshell, Suwannee	<i>Medionidus walkeri</i>	Wherever found	T	81 FR 69417, 10/6/2016; 50 CFR 17.95(f). ^{CH}
* * * * *				

3. Amend § 17.95 in paragraph (f) by adding an entry for “SUWANNEE MOCCASINSHELL (*MEDIONIDUS WALKERI*)” immediately after the entry for “FLUTED KIDNEYSHELL (*PTYCHOBRANCHUS SUBTENTUM*),” to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(f) * * *

SUWANNEE MOCCASINSHELL (*MEDIONIDUS WALKERI*)

(1) Critical habitat units are depicted on the maps in this entry for Alachua, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Madison, Suwannee, and Union Counties, Florida; and Brooks and Lowndes Counties, Georgia.

(2) Within these areas, the physical or biological features essential to the conservation of Suwannee moccasinshell consist of the following components:

(i) Geomorphically stable stream channels (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of muddy sand or mixtures of sand and gravel, and with little to no accumulation of unconsolidated sediments and low amounts of filamentous algae.

(iii) A natural hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the

species is found, and connectivity of stream channels with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability, and spawning habitat for native fishes.

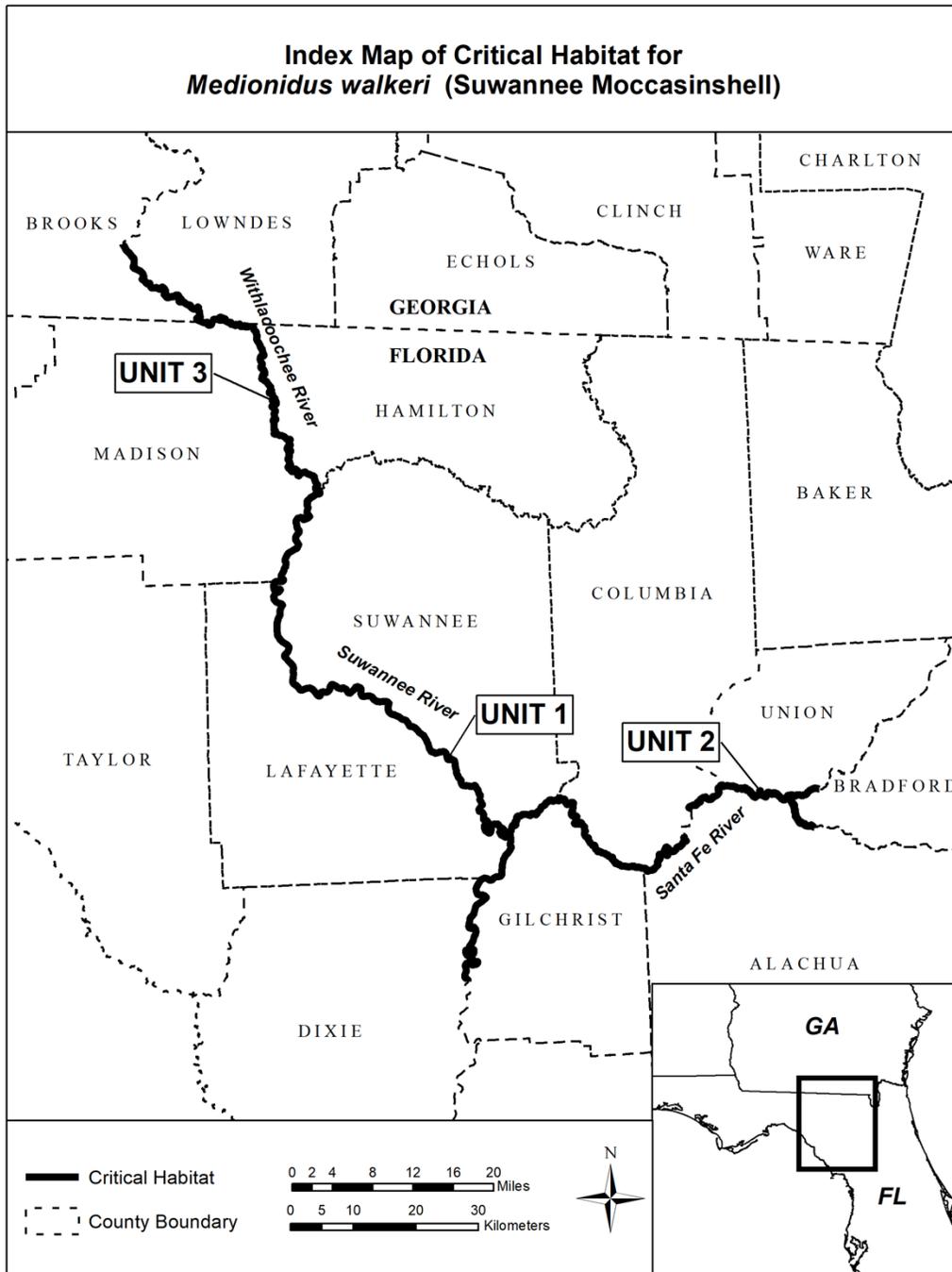
(iv) Water quality conditions needed to sustain healthy Suwannee moccasinshell populations, including low pollutant levels (not less than State criteria), a natural temperature regime, pH (between 6.0 to 8.5), adequate oxygen content (not less than State criteria), hardness, turbidity, and other chemical characteristics necessary for normal behavior, growth, and viability of all life stages.

(v) The presence of fish hosts necessary for recruitment of the Suwannee moccasinshell. The presence of blackbanded darters (*Percina nigrofasciata*) and brown darters (*Etheostoma edwini*) will serve as an indication of fish host presence.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [INSERT DATE 30 DAYS AFTER DATE OF FEDERAL REGISTER PUBLICATION].

(4) Data layers defining map units were created with U.S. Geological Survey National Hydrography Dataset GIS data. The high-resolution 1:24,000 flowlines were used to calculate river kilometers and miles. ESRI's ArcGIS 10.2.2 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was Universal Transverse Mercator, NAD 83, Zone 16 North. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates on which each map is based are available at <http://www.regulations.gov> at Docket No. FWS-R4-ES-2019-0059, the Service's Internet site (<https://www.fws.gov/panamacity>), and at the field office responsible for this designation. You may obtain field office location by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Note: Index map of critical habitat units for the Suwannee moccasinshell in Florida and Georgia follows:

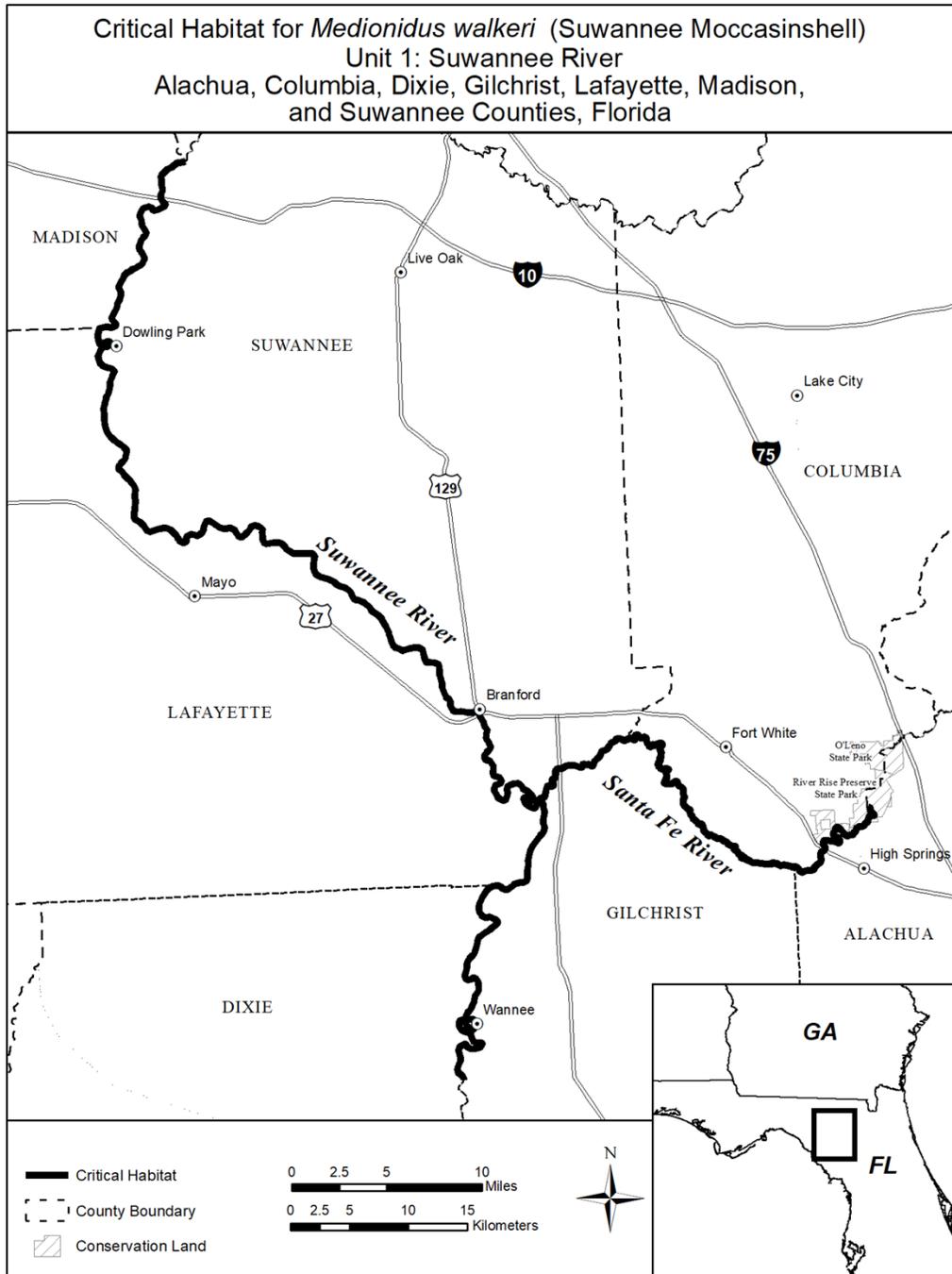


(6) Unit 1: Suwannee River in Alachua, Columbia, Dixie, Gilchrist, Lafayette, Madison, and Suwannee Counties, Florida.

(i) Unit 1 consists of approximately 187 kilometers (km) (116 miles (mi)) of the

Suwannee River and lower Santa Fe River in Alachua, Columbia, Dixie, Gilchrist, Lafayette, Madison, and Suwannee Counties, Florida. The unit includes the Suwannee River mainstem from the confluence of Hart Springs in Dixie and Gilchrist Counties, upstream 137 km (85 mi) to the confluence of the Withlacoochee River in Madison and Suwannee Counties; and the Santa Fe River from its confluence with the Suwannee River in Suwannee and Gilchrist Counties, upstream 50 km (31 mi) to the river's rise (the Santa Fe River runs underground for more than 3 miles, emerging at River Rise Preserve State Park) in Alachua County.

(ii) Map of Unit 1, Suwannee River, follows:

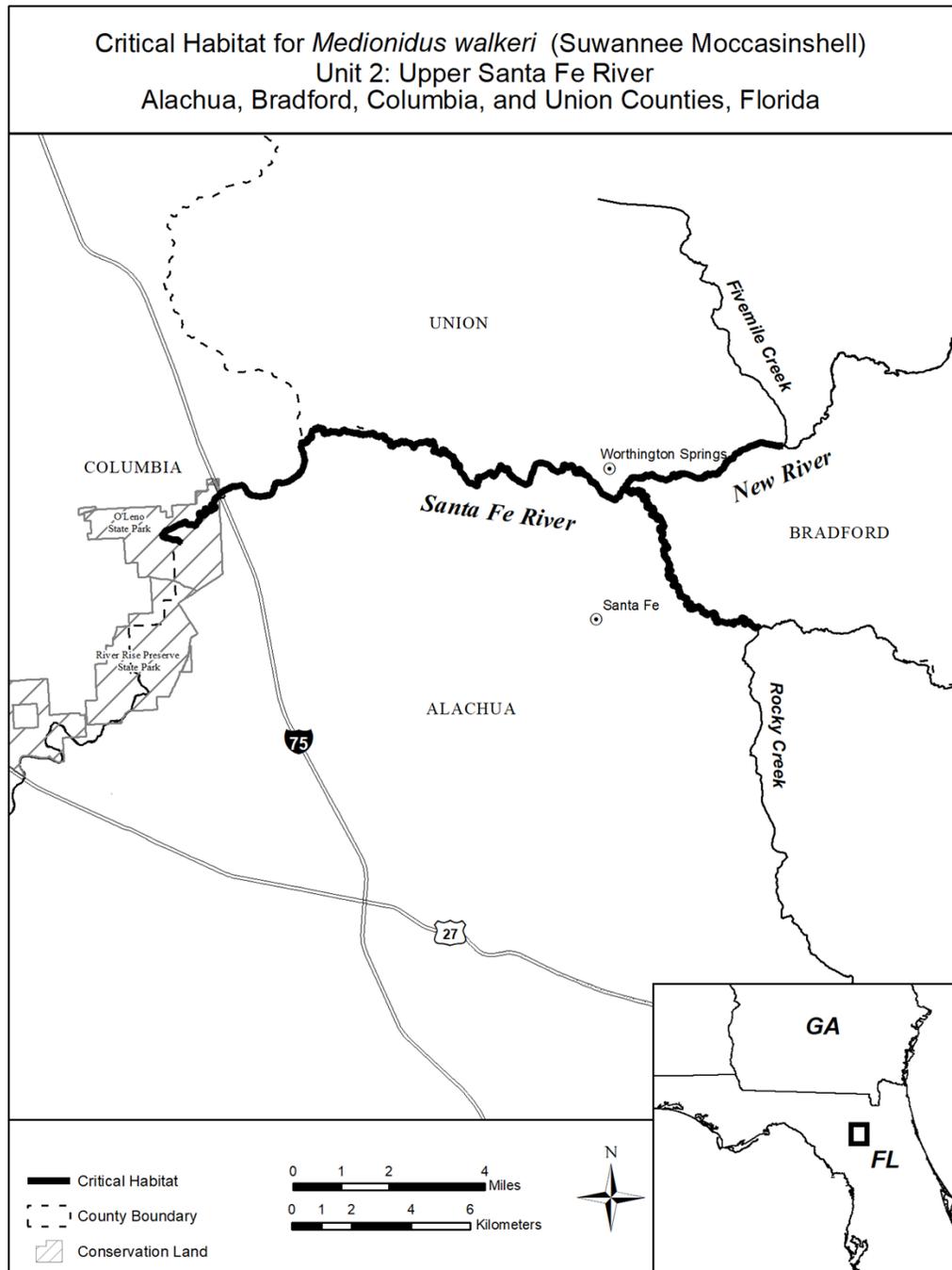


(7) Unit 2: Upper Santa Fe River in Alachua, Bradford, Columbia, and Union, Counties, Florida.

(i) The Upper Santa Fe River Unit consists of approximately 43 km (27 mi) of the Santa Fe River and New River in Alachua, Bradford, Columbia, and Union Counties, Florida. The unit includes the Santa Fe River from the river's sink in Alachua County,

upstream 36.5 km (23 mi) to the confluence of Rocky Creek in Bradford and Alachua Counties; and the New River from its confluence with the Santa Fe River, upstream 6.5 km (4 mi) to the confluence of Five Mile Creek in Union and Bradford Counties.

(ii) Map of Unit 2, Upper Santa Fe River, follows:

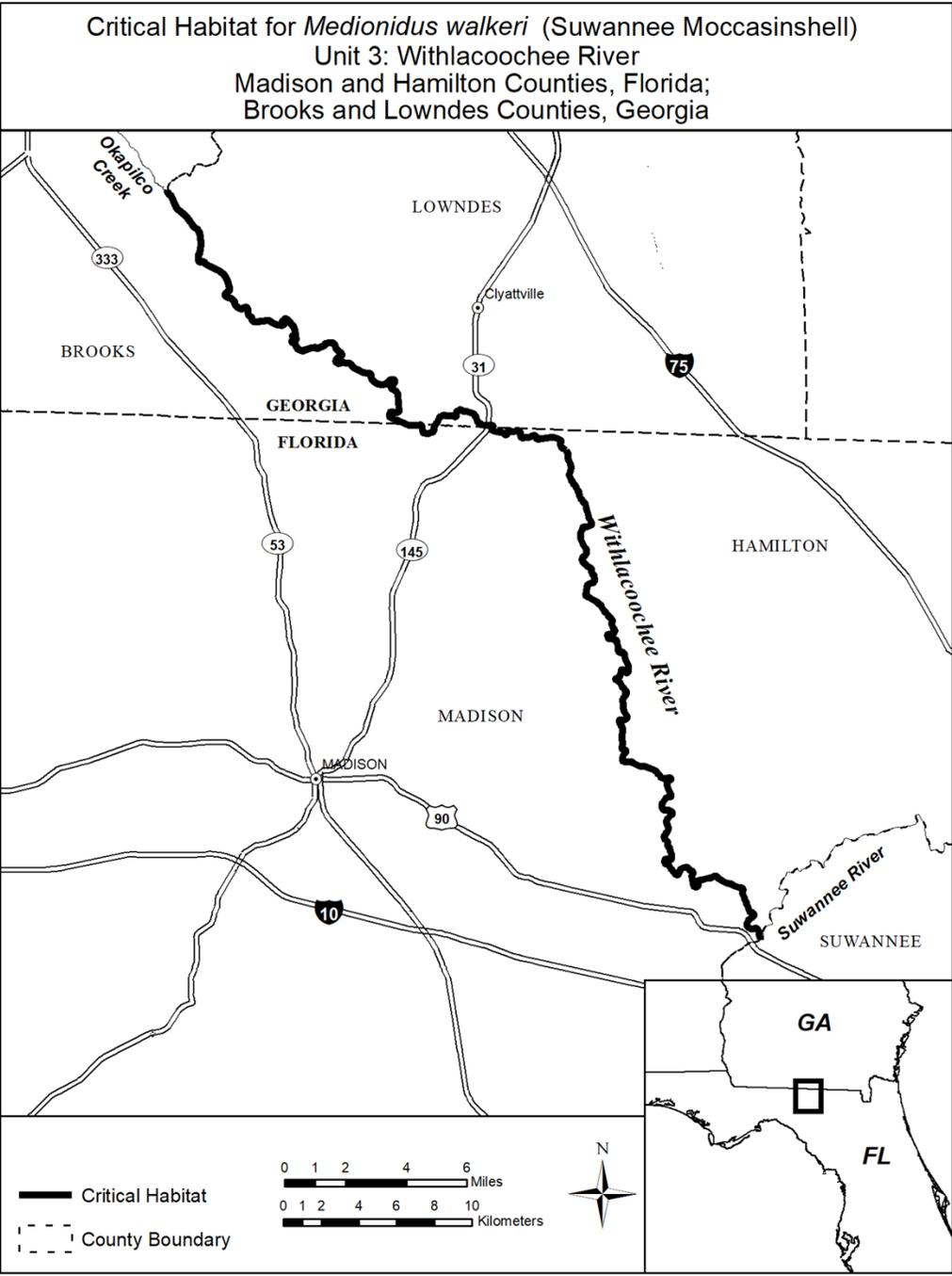


(8) Unit 3: Withlacoochee River in Hamilton and Madison Counties, Florida;

Brooks and Lowndes Counties, Georgia.

(i) The Withlacoochee River Unit consists of approximately 75.5 km (47 mi) of the Withlacoochee River in Hamilton and Madison Counties, Florida, and Brooks and Lowndes Counties, Georgia. The unit includes the Withlacoochee River from its confluence with the Suwannee River in Madison and Hamilton Counties, FL, upstream 75.5 km (47 mi) to the confluence of Okapilco Creek in Brooks and Lowndes Counties, GA.

(ii) Map of Unit 3, Withlacoochee River, follows:



* * * * *

Anissa Craghead,
Acting Regulations and Policy Chief,
Division of Policy, Economics, Risk Management, and Analytics,
Joint Administrative Operations,
U.S. Fish and Wildlife Service.

